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ANOTHER DISCOVERY OF *ZYGOMATURUS* FROM THE MURCHISON RIVER, WESTERN AUSTRALIA

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In late September 1978, Mr John White of Mullewa reported to the Western Australian Museum that he had discovered bone fragments eroding out of the banks of the Murchison River. The bones were found in the same area where, in the late 1950's, a complete mandible of *Zygomaturus trilobus* was found by H. White (Merrilees, 1968) and a large scapula and other fragments were found by J. White. Following this report, G. Kendrick of the Palaeontology Department and W. Ferguson and myself of the Archaeology Department of the Western Australian Museum investigated the site.

The fossil site is located in the bed of the Murchison River on Billabalong Station about 20 m downstream from the road bridge on the Mullewa-Gascoyne Junction road, 120 km north of Mullewa. The bones were embedded on a one metre thick deposit of coarse brown sandstone which contains some clay and has irregular silicification, particularly in its top 10 cm. Silicified plant fragments are abundant throughout the unit.

Overlying the fossil bearing unit is a silica band 2-3 cm thick, most easily visible on the downstream side of the bridge, and above this there is a coarse brown friable sandstone about 25 cm thick overlain by a grey-brown silcrete band 10-15 cm thick. All these sediments underlie a modern red alluvium and all are now cut through by the Murchison River.

The outline of the lower jaw of a large diprotodontid could easily be recognised among the group of bone fragments shown to us by Mr John White and in addition to this group, two other bone fragments were found, each within a few metres of the first group. All the bones were in an extremely worn and weathered condition and to prevent their further deterioration it was decided to excavate the exposed fragments.

Because the surface of the sediments in which the bones were embedded was so hard, the fossils were excavated in 'blocks' of sediment and this remaining sediment was removed at the museum. The two blocks from the main group of fossils revealed several more bone fragments than had been visible from the surface, but only four of these were identifiable and most were only scraps of bone.

All four of the identifiable specimens are attributable to the genus *Zygomaturus*. These are a left lower permanent premolar (catalogued in the Western Australian Museum palaeontology collection as 79.1.13), a molar fragment (79.1.14), a fragment of lower jaw containing a complete left lower incisor and an incomplete right lower incisor (79.1.12) and the lingual side of a left dentary containing fragments of the second, third and fourth molars and including the condyle and coronoid process (79.1.11). Despite the number of fragments it is possible that only one individual is represented. A few of the other fragments of bone also represent a large diprotodontid but these fragments were too incomplete to assign to genus.

The fragments of *Zygomaturus* do not appear to differ in size or form from specimens of *Zygomaturus trilobus* in the W.A. Museum palaeontology collection (including those found at the Murchison River previously) and it is probable that the new specimens are also referable to *Z. trilobus*.

All the bone excavated by us in October appeared to be in the same

stratigraphic unit as those found in the late 1950's, and it is probable that this unit contains other bones not yet exposed by erosion.

Merrilees (1968: 15) concluded that the *Zygomaturus trilobus* remains found by the Whites in the 1950's are contemporaneous with artifacts he found in similar sediments in the district. Recently, Wyrwoll and Dortch (1978) reported the association of artifacts with a mandible of *Zygomaturus trilobus* in the nearby Greenough River. Investigations now in progress may provide more evidence for the antiquity of the Murchison River fossils and the possible causes of this species' extinction.

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WATERFOWL UTILIZATION OF LAKE CLAREMONT DURING 1977

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INTRODUCTION

Lake Claremont, situated in the Perth suburb of Claremont, lies in a depression in the Spearwood System of coastal sand dunes. It is now a permanent freshwater lake, which covers an area of approximately 20 ha at high water and has a maximum depth of 2.5 m. Until 1918 the area comprised a central swamp zone with paper bark trees *(Melaleuca rhaphiophylla)* and two small permanent waterholes surrounded by an area of brown sandy soil supporting Blackboys *(Xanthorrhoea preissii)* and Tuarts *(Eucalyptus gomphocephala)* (Evans and Sherlock, 1950). The lake is thought to have formed after 1920 when several successive years of high rainfall elevated the metropolitan water table (Serventy, 1948; Evans and Sherlock, 1950; Seddon, 1972). Only remnants of the original vegetation now remain since the establishment of sporting amenities and picnic area around the lake. Within Lake Claremont small areas of the sedge *(Scirpus lacustris)* and Bulrush *(Typha orientalis)* are the only living emergent macrophytes. Some skeletons of dead paperbarks also remain. The area was known as Butler's Swamp until July 1954 when the name Lake Claremont was formally adopted *(West Australian,* July 23, 1954).

Along with other water bodies on the Swan Coastal Plain, Lake Claremont is utilized by birds as an area for refuge from storms and the activities of man (e.g. Silver Gull, *Larus novaehollandiae);* for feeding (e.g. Black-winged Stilts, *Himantopus himantopus);* and for breeding and nesting (e.g. Black Duck, *Anas superciliosa;* Coots, *Fulica atra* and Black Swans, *Cygnus atratus)* (Serventy, 1948; Seddon, 1972). Particularly in the summer birds utilize Lake Claremont in large numbers; many waterfowl such as the Black-winged Stilt and the Black Duck migrate inland in winter when water bodies in the hinterland become available for exploitation by them (Serventy & Whittell, 1967). Emory *et al.* (1975) counted the number of birds utilizing Lake Claremont on 15 occasions from 1972 to 1974, mainly in the latter months of 1972 (5 times from September to December) and 1974 (8 times from September to November). They recorded fewer birds present on the lake in 1972 and attributed this to the higher level of salinity of the water over that period.